In the claims:

1. (Currently Amended) A tuned vibration absorbing system for a seat system comprising:

at least one seat system vibration absorbing flexible extension member coupled to the seat system; and

at least one suspended element coupled to said at least one flexible extension member;

said at least one flexible extension member and said at least one suspended element configured to absorb vibration within the seat system.

2. (Original) A system as in claim 1 further comprising:

at least one seat system attachment mechanism coupled between the seat system and said at least one flexible extension member.

3. (Original) A system as in claim 2 further comprising:

at least one housing coupled to said at least one seat system attachment mechanism and containing said at least one flexible extension member and said at least one suspended element.

4. (Original) A system as in claim 3 wherein said at least one seat system attachment mechanism comprises a threaded portion for threading said at least one housing thereon.

5. (Original) A system as in claim 3 wherein said housing is at least partially filled with a fluid.

6. (Original) A system as in claim 2 further comprising:

at least one vessel coupled to said at least one seat system attachment mechanism and containing said at least one flexible extension member, said at least one suspended element, and a fluid.

7. (Currently Amended) A system as in claim 2 wherein said at least one seat system attachment mechanism comprises a tubular clamping mechanism.

8. (Original) A system as in claim 1 wherein said at least one flexible extension member and said at least one suspended element have a

natural frequency that is approximately equal to natural frequency of the seat system.

9. (Original) A system as in claim 1 wherein said at least one flexible extension member and said at least one suspended element are integrally formed as a single unit.

10. (Original) A system as in claim 1 wherein said at least one flexible extension member is noncylindrical in shape.

11. (Original) A system as in claim 1 wherein said at least one flexible extension member comprises:

a first rectangular cross-sectional surface area having a corresponding first bending moment; and

a second rectangular cross-sectional surface area having a corresponding second bending moment.

12. (Original) A system as in claim 11 wherein said first bending moment is directly related to a fore and aft natural frequency of the seat system and said second bending moment is directly related to a lateral natural frequency of the seat system.

13. (Currently Amended) A seat system comprising:

a tuned vibration absorbing system comprising;

a housing;

a seat system attachment mechanism coupled to a seat frame;

a flexible extension member at least partially contained within said housing and coupled to said seat system attachment mechanism; and

a suspended element coupled to said flexible extension member.

14. (Original) A system as in claim 13 wherein said seat system attachment mechanism is coupled to an upper portion of the seat system.

15. (Original) A system as in claim 13 wherein said seat system attachment mechanism is coupled to an upper portion of a seat back of the seat system.

16. (Original) A system as in claim 13 wherein said seat system attachment mechanism threads into a seat frame of the seat system.

17. (Currently Amended) A method of designing and manufacturing a seat system having a tuned vibration absorbing system comprising:

designing the tuned vibration absorbing system having at least one flexible extension member and at least one seat system vibration absorbing suspended element that absorb vibration within the seat system;

manufacturing the tuned vibration absorbing system; and

coupling the tuned vibration absorbing system to the seat system.

18. (Original) A method as in claim 17 wherein designing the tuned vibration absorbing system comprises designing said at least one flexible extension member and said at least one suspended element to have a natural frequency that is approximately equal to a natural frequency of the seat system.

19. (Original) A method as in claim 17 wherein designing the tuned vibration absorbing system comprises:

tuning a first rectangular cross-sectional surface area of said at least one flexible extension member to have a first bending moment; and

tuning a second rectangular cross-sectional surface area of said at least one flexible extension member to have a second bending moment.

20. (Original) A method as in claim 17 further comprising:

determining seat system design features;

determining mass of the seat system in response to said design features;

determining stiffness of the seat system in response to said design features;

determining natural frequency of the seat system in response to said mass and said stiffness; and

designing the tuned vibration absorbing system in response to said natural frequency of the seat system.